In re Application of: Dan ROTTENBERG et al
Serial No.: 10/597,666
Filed: June 20, 2007
Office Action Mailing Date: March 28, 2008

Examiner: Susan Shan SU
Group Art Unit: 4193
Attorney Docket: 34955

In the Specification:

Please amend Paragraph [0036] on **Page 3** as follows:

[0036] DPRD **101** may include, for example, an adjustable shunt, tube or pathway ~~**107**~~ **122** to enable fluids to flow between two body lumens, organs, regions or zones etc., for example between a left atrium **102** and a right atrium **103**. DPRD **101** may include a Flow Regulation Mechanism (FRM) **108** as described herein, for example a flow valve, cover, valve opening, valve stem, or lid, to enable selected modification of the parameters of shunt ~~**107**~~**122**, for example, by changing the cross section of the opening of shunt ~~**107**~~ 122 or the shunt's shape etc., thereby regulating the blood flow from left atrium **102** to right atrium **103**. In some embodiments FRM **108** may be set in a continually ajar position to enable a continual flow of blood between the left atrium and the right atrium. For example, FRM **108** may be purposefully left ajar, to enable a selected quantity of blood to continually flow between the heart chambers. FRM **108** may be subsequently adjusted, for example, by selectively changing the size or shape of the opening, amount of blood allowed to flow through, etc., to enable the area around the opening of shunt ~~**107**~~ **122** and FRM **108** to be limited and/or expanded, thereby affecting effective flow-through of shunt ~~**107**~~**122**, and enabling the quantity of blood flow between the chambers to be controlled. DPRD **101** may include one or more control mechanisms **110**, for example, wires, springs, cords etc. to enable FRM **108** to be passively and/or actively controlled. In one embodiment springs may be used to enable FRM **108** to act in accordance with changes in differential pressure, for example, by being pre-loaded with a selected tension, to respond in a controlled way to changes in one or more pressure thresholds.

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Please amend Paragraph [0037] on **Page 3** as follows:

[0037] FRM **108** may be configured to respond to selective pressure profiles, thereby providing a known pressure relief profile. For example, FRM **108** may be preset, pre-calibrated and/or pre-configured to change its setting, adjust its configuration or position, and/or change the orifice width or flow amount etc., in accordance with changes in pressure difference between the left and right atriums of the heart. FRM **108** may be continually adjustable, for example to a continuously variable setting, for example in response to environmental conditions and/or external controls. In at least these ways, DPRD **101** may provide a selected, predictable and/or guaranteed flow of fluid between two or more bodily lumens or regions etc. In some embodiments the resting or default setting, opening size, flow level or position of FRM **108** may be changed, for example, according to pre-programmed parameters and/or remote control mechanisms. In some embodiments a continuously open or ajar FRM **108** may help prevent occlusion of shunt ~~107~~**122**.

Please amend Paragraph [0044] on **Page 4** as follows:

[0044] In other embodiments FRM **108** may include a cover, lid or other suitable mechanism that may have various forms to enable partial or total closure of FRM **108**. Reference is now made to FIGS. 1B-1G. In FIG. 1B FRM **108** may include two or more arms **120** which may be configured to be continuously or constantly ajar at opening **125** of shunt **122**. For example, FRM **108** may be configured to remain continually at least partially detached from shunt ~~107~~**122**, to allow a continuous flow of fluid between left atrium **102** and right atrium **103**. Arms **120** may be further opened and/or closed in response to changes in pressure differences between the heart chambers. Arms **120** may be constructed from a flexible polymer or other suitable materials. Arms **120** may have rounded shapes at arm ends **130**, for example, to help prevent blood stagnation.

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Please amend Paragraph [0048] on **Page 4** as follows:

[0048] In FIG. 1F FRM **108** may include a shunt **122**, and a cap, valve opening, valve stem, or other ~~flow regulation~~ mechanism **175**, which may be configured to be constantly ajar at opening **125** to enable a continuous blood flow through shunt **122**. Cap **175** may be coupled to a spring **177** or other suitable pressure sensitive mechanism. In one embodiment spring **177** may be pre-loaded with a selected tension to respond in a controlled way to changes in one or more pressure thresholds. FRM **108** may include one or more cap motion limiters **179**. FRM **108** may include a fixed polarized magnet **181** and an electromagnetic coil **183** that includes one or more conductors **185**. Cap **175** may be opened and/or closed in response to changes in pressure differences between the heart chambers and/or by remotely activating magnet **181** and/or magnetic coil **183**. For example, when magnet **181** is activated cap **175** may be further opened, and when coil **183** is activated cap **175** may be further closed.